

Accuracy Characteristics for ZJX Risk Reduction Revision B Nominal Scenario, Hours 1425-1835

1 Introduction

This document contains scenario characteristics for hours 1425 to 1835 (actual recorded data 14:26:17 to 18:33:54) GMT recorded on October 8, 2002 at Jacksonville ARTCC (ZJX). Characteristics provided are general statistics determined from the scenario on general air traffic activity and aircraft and air carrier characteristics. Definitions for these scenario characteristics are provided in Reference[1].

2 Air Traffic Distributions

This section provides metrics that characterize the air traffic. The metrics are flight density partitioned by standard flight levels, flight type and sector penetration, statistics on the number of active flights, ground speed statistics, counts of interim altitude and amendment messages, and air traffic maneuvers by altitude and phase of flight. This section corresponds to Section 3.3 of Reference[1].

2.1 Active Flights

This section corresponds to section 3.3.2 of Reference[1].

Table 1: Statistics on Active Flights per Minute Increment

Count Average	Standard Deviation	Maximum Count	Minimum Count
189.744	48.628	239	0

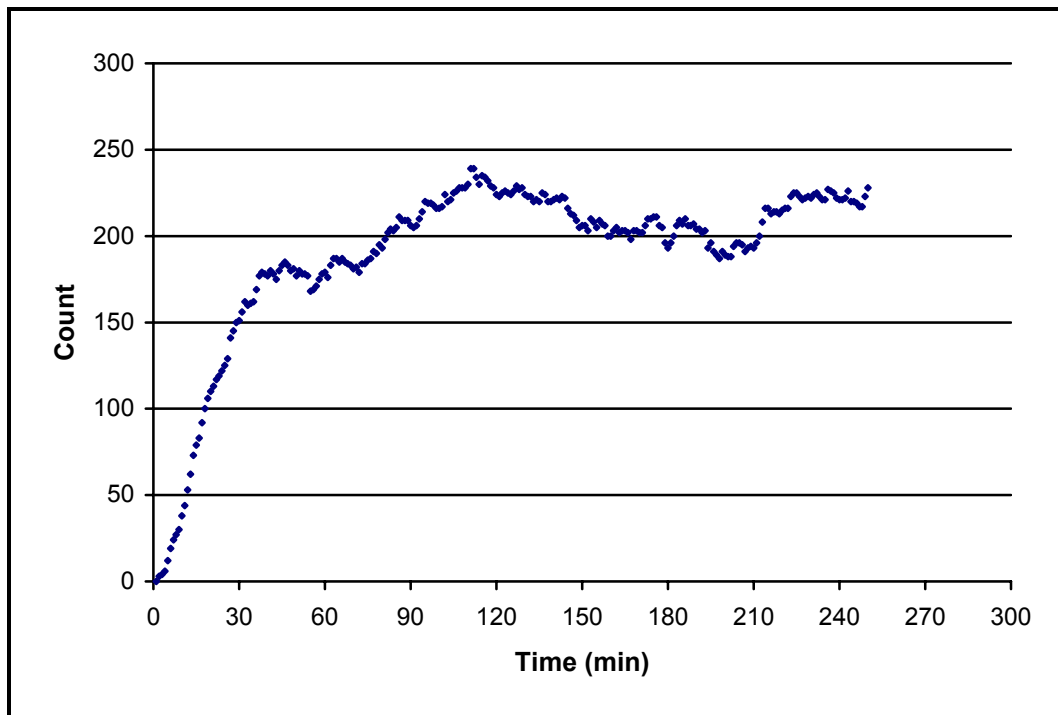


Figure 1: Count of Active Flights per Minute Increment

2.2 Flight Type and Sector Penetration

This section corresponds to Section 3.3.3 of Reference[1].

Table 2: Statistics on Sector Time, Center Time and Sector Penetration by Flight Type

Metric	Arrivals	Departures	Internals	Overflights	All Flights
Average Number of Sectors Penetrated	2.276	2.649	1.644	2.268	2.338
Average Time in Center (sec)	1557.330	1597.537	1143.678	1918.494	1664.921
Average Time in Sector (sec)	667.403	585.465	655.944	821.928	691.481
Percentage by Flight Type	26.446	30.203	6.536	35.913	100.000

2.3 Interim Altitude Messages

This section corresponds to Section 3.3.6 of Reference[1].

Table 3: Statistics on Interim Altitude Messages ¹

Flight Count	Average	Standard Deviation	Maximum Count	Minimum Count
985	2.825	1.120	8	1

2.4 Amendment Messages

This section corresponds to Section 3.3.7 of Reference[1]

Table 4: Statistics on Amendment Messages per Flight²

Flight Count	Average	Standard Deviation	Maximum Count	Minimum Count
767	2.494	1.469	9	1

¹ Statistics on flights with interim altitude messages only

² Statistics on flights with flight plan amendments only

2.5 Air Traffic Maneuvers

This section corresponds to Section 3.3.8 of Reference[1]. Detailed statistics on air traffic maneuvers are provided in Appendix C.

Table 5: Total Track Report Maneuver Count by Vertical and Horizontal Phase of Flight

Vertical Phase	Horizontal Phase of Flight		Total
	STR	TURN	
ASC	10050	2152	12202
DES	8550	1783	10333
LEV	2606	1578	4184
Total	21206	5513	26719

Table 6: Percent breakdown of Flight Tracks by Vertical and Horizontal Phase

Vertical Phase	Horizontal Phase of Flight		Margin (%)
	STR (%)	TURN (%)	
ASC	37.614	8.054	45.668
DES	32.000	6.673	38.673
LEV	9.753	5.906	15.659
Margin (%)	79.367	20.633	100.000

3 Aircraft Distributions

This section provides the metrics used to characterize the aircraft provided in the scenario. The selected metrics are aircraft type, model, navigational equipment, and the air carriers operating in the airspace. The section corresponds to Section 3.4 of Reference[1].

3.1 Aircraft Type

This section corresponds to Section 3.4.1 of Reference[1].

Table 7: Count by Aircraft Type

Aircraft Type	Count	Percentage of Total
J	967	71.736
P	134	9.941
T	159	11.795
Unknown	88	6.528
Total	1348	100.000

3.2 Aircraft Models

This section corresponds to Section 3.4.2 of Reference[1].

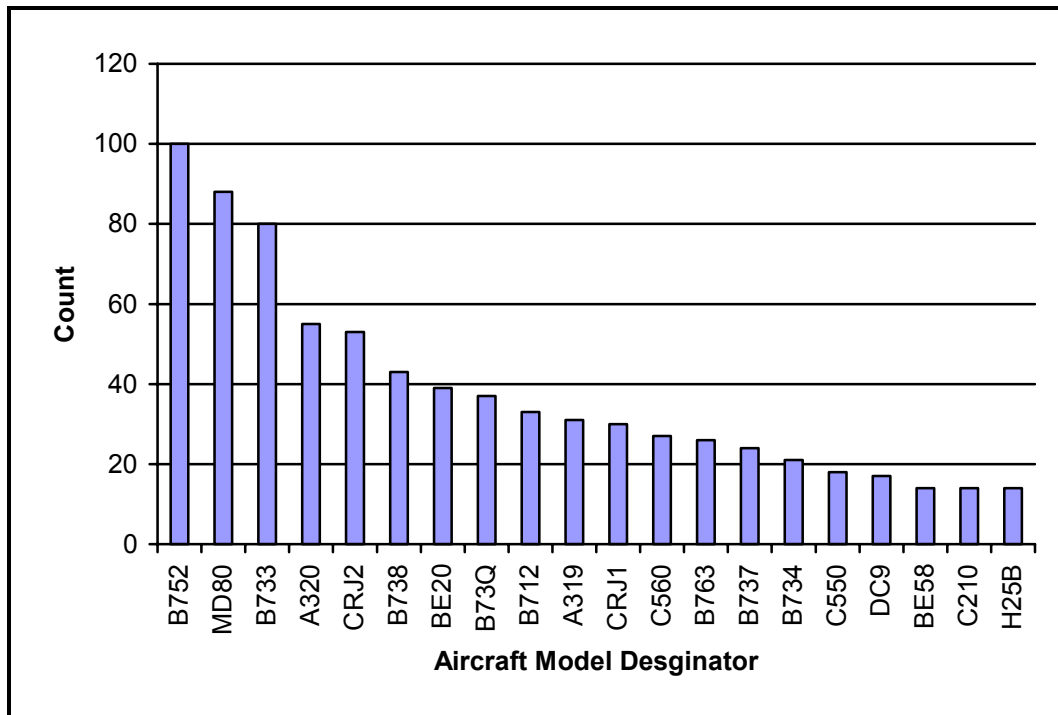


Figure 2: Count of Top Twenty Aircraft Models

3.3 Navigational Equipage

This section corresponds to Section 3.4.3 of Reference[1].

Table 8: Count by Aircraft Navigational Equipage Type

Nav. Equip. Designator	Count	Percentage of total
G	346	25.668
E	256	18.991
F	189	14.021
I	180	13.353
A	154	11.424
R	120	8.902
Q	37	2.745
W	34	2.522
Unknown	27	2.003
P	5	0.371
Total	1348	100.000

3.4 Carrier Distribution

This section corresponds to Section 3.4.4 of Reference[1].

Table 9: Count by Carrier Type

Category	Count	Percentage of Total
Commercial	895	66.395
General Aviation	342	25.371
Other ³	111	8.234
Total	1348	100.000

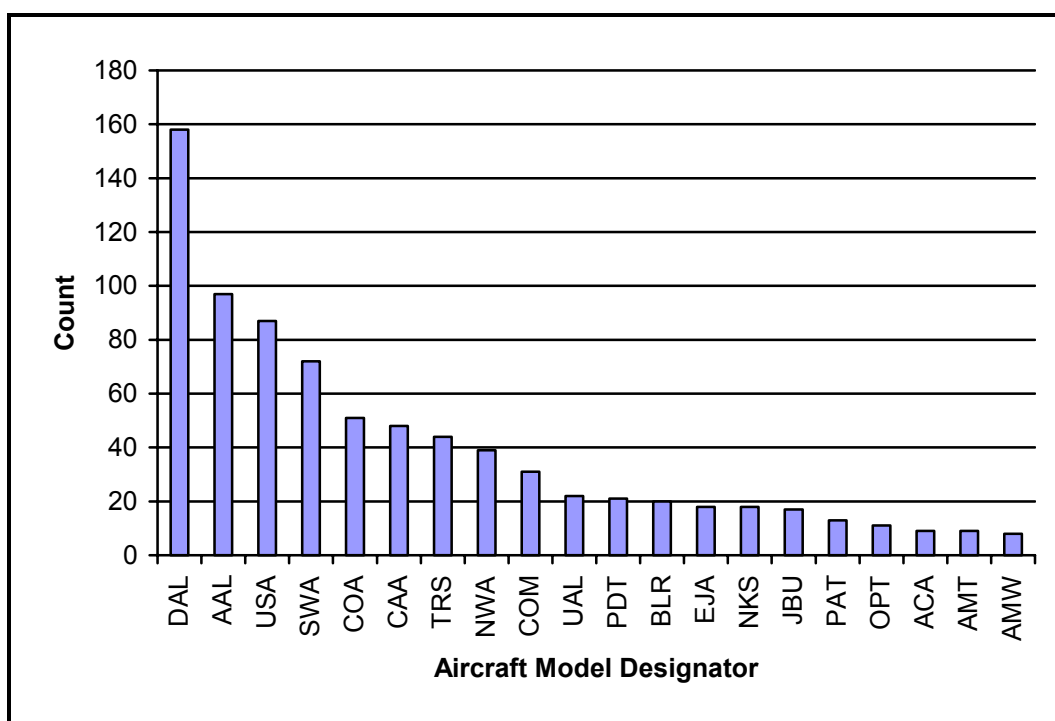


Figure 3: Count by Top Twenty Air Carriers

4 Reference

[1] Paglione, M., Oaks, R., Ryan, Dr. H., Summerill, J.S., (Final, January 2000), "Description of Accuracy Scenarios for the Acceptance Testing of the User Request Evaluation Tool (URET) / Core Capability Limited Deployment (CCLD)," FAA William J. Hughes Technical Center / ACT-250, Atlantic City, New Jersey.

³ Includes military and aircraft with unrecognized designators.